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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/627,802

07/28/2000

Dwight J. Petruchik

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09/09/2004

PATENT LEGAL STAFF
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EXAMINER

DONG, DALEI

ART UNIT

PAPER NUMBER

2879

DATE MAILED: 09/09/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/627,802	PETRUCHIK, DWIGHT J.	
	Examiner	Art Unit	
	Dalei Dong	2879	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 July 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 14 and 15 is/are allowed.
- 6) ☒ Claim(s) 1,2,7-13 and 16 is/are rejected.
- 7) ☒ Claim(s) 3-6 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|-----------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. In view of the Appeal Brief filed on July 15, 2004, PROSECUTION IS HEREBY REOPENED. A new ground of rejection is set forth below.

To avoid abandonment of the application, appellant must exercise one of the following two options:

- (1) file a reply under 37 CFR 1.111 (if this Office action is non-final) or a reply under 37 CFR 1.113 (if this Office action is final); or,
- (2) request reinstatement of the appeal.

If reinstatement of the appeal is requested, such request must be accompanied by a supplemental appeal brief, but no new amendments, affidavits (37 CFR 1.130, 1.131 or 1.132) or other evidence are permitted. See 37 CFR 1.193(b)(2).

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1, 2, 7, 8, 12, 13 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,055,662 to Hasegawa in view of U.S. Patent No. 6,002,383 to Shimada.

Regarding to claim 1, Hasegawa discloses in Figure 3, a process for laminating a flexible electrically addressable display, said process comprising: providing a flexible, electrically addressable liquid crystal display (1) having first and second surfaces; placing a protective sheet (15) over at least one of said first and second surfaces.

However, Hasegawa does not disclose subjecting the protective sheet to conditions of temperature and pressure effective to cause said protective sheet to adhere to the surface. Shimada teaches that it is old and well known in the art to use thermopressure process to set the flexible, electrically addressable liquid crystal display within a protective sheet (see column 29, lines 57-64) for the purpose of providing a secure and reliable attaching process.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have utilize the old and well-known thermopressure process of Shimada for the flexible, electrically addressable liquid crystal display of Hasegawa in order to provide a secure and reliable attaching process.

Regarding to claim 2, Shimada teaches providing an adhesive resin (37) between the protective sheet and the surface prior to the applying of heat and pressure; and the motivation to combine is the same as above.

Regarding to claim 7, Hasegawa in view of Shimada discloses the claimed invention except for claimed preferred material of protective sheets. However, these material are old and well known in the art to utilize as protective sheets for the liquid

crystal display, therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to have utilize the claimed preferred material for the protective sheets, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416.

Regarding to claim 8, Shimada teaches the adhesive resin is selected from a group consisting of homopolymer and co-polymer resins (see column 8, lines 22-24).

Regarding to claim 12, Hasegawa discloses in Figure 7B and 7C, at least one protective sheet comprises a contact aperture to the electrically addressable liquid crystal display.

Regarding to claim 13, Hasegawa in view of Shimada discloses a laminated electrically addressable liquid crystal display.

Regarding to claim 16, Hasegawa discloses a process for laminating a flexible electrically addressable display, said process comprising: providing a flexible, electrically addressable liquid crystal display having first and second surfaces, said first outer surface comprising a flexible substrate (14) of the display, said second outer surface comprising an electrically conductive layer (11) overlying a dielectric layer (12); placing a protective sheet 15) over at least one of said first and second surfaces.

However, Hasegawa does not disclose subjecting the protective sheet to conditions of temperature and pressure effective to cause said protective sheet to adhere to the surface. Shimada teaches that it is old and well known in the art to use thermopressure process to set the flexible, electrically addressable liquid crystal display within a protective sheet (see column 29, lines 57-64) for the purpose of providing a secure and reliable attaching process.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have utilize the old and well-known thermopressure process of Shimada for the flexible, electrically addressable liquid crystal display of Hasegawa in order to provide a secure and reliable attaching process.

4. Claims 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,055,662 to Hasegawa in view of U.S. Patent No. 6,002,383 to Shimada in further view of U.S. Patent No. 5,838,409 to Tomono.

Regarding to claim 9, Hasegawa in view of Shimada discloses a process for laminating a flexible electrically addressable display, said process comprising: providing a flexible, electrically addressable liquid crystal display (1) having first and second surfaces; placing a protective sheet (15) over at least one of said first and second surfaces; and subjecting the protective sheet to conditions of temperature and pressure effective to cause said protective sheet to adhere to the surface, thereby forming a laminate comprising said electrically addressable liquid crystal display.

However, Hasegawa and Shimada does not disclose the applied heat is at a temperature of about 25 to about 150 degree Celsius and the applied pressure is at a pressure about 1 to 5 kilograms per centimeter squared. Tomono teaches applying heat at a temperature of about 25 to about 150 degree Celsius and the applied pressure is at a pressure about 1 to 5 kilograms per centimeter squared (see column 6, lines 23-38 and column 6, line 64 to column 7, line 9).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have utilize the old and well-known thermopressure process of Shimada along with the optimal pressure and temperature of Tomono for the flexible, electrically addressable liquid crystal display of Hasegawa in order to provide a secure and reliable attaching process.

5. Claims 10 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,055,662 to Hasegawa in view of U.S. Patent No. 6,002,383 to Shimada in further view of U.S. Patent No. 6,052,137 to Shimada.

Regarding to claim 10, Hasegawa in view of Shimada '383 discloses a process for laminating a flexible electrically addressable display, said process comprising: providing a flexible, electrically addressable liquid crystal display (1) having first and second surfaces; placing a protective sheet (15) over at least one of said first and second surfaces; and subjecting the protective sheet to conditions of temperature and pressure effective to cause said protective sheet to adhere to the surface, thereby forming a laminate comprising said electrically addressable liquid crystal display.

However, Hasegawa and Shimada '383 does not disclose inserting a first printed sheet between the first surface and a first protective sheet. Shimada '137 teaches printed sheet (5) inserted between the first surface and the first protective sheet (see column 8, line 64 to column 9, line 6).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have utilize the old and well-known thermopressure process of Shimada '383 along with the printed sheet of Shimada '137 for the flexible, electrically addressable liquid crystal display of Hasegawa in order to provide a secure and reliable attaching process.

Regarding to claim 11, Shimada '137 teaches the printed sheet on the first surface and the first protective sheet, however, does not teaches a second printed sheet inserted between the second surface and the second protective sheet. It is old and well known in the art to provide printed sheet on both sides of the display in order to provide valid information thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have inserted a second printed sheet in order to provide more information and easier identification of the display.

Allowable Subject Matter

6. Claims 3-6 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Regarding to claim 15, they are allowable because of depended upon an allowable claim.

Response to Arguments

8. In view of the Appeal Brief filed on July 15, 2004, PROSECUTION IS HEREBY REOPENED. A rebuttal to the Appeal Brief set forth below.

To avoid abandonment of the application, appellant must exercise one of the following two options:

(1) file a reply under 37 CFR 1.111 (if this Office action is non-final) or a reply under 37 CFR 1.113 (if this Office action is final); or,

(2) request reinstatement of the appeal.

If reinstatement of the appeal is requested, such request must be accompanied by a supplemental appeal brief, but no new amendments, affidavits (37 CFR 1.130, 1.131 or 1.132) or other evidence are permitted. See 37 CFR 1.193(b)(2).

9. Applicant's arguments with respect to claims 1-16 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Regarding to claim 3, prior art of record taken alone or in combination fails to teach or suggest a patterned layer comprising areas of opaque electrically conductive material disposed on the light modulating layer and a dielectric layer disposed on the patterned layer, the dielectric layer comprising contact apertures to the areas of opaque electrically conductive material and to the first electrically conductive layer and a second electrically conductive layer overlying the dielectric layer and extending into the contact apertures in order to enables displays to withstand damage caused by abrasion, impact and various environmental factors.

Regarding to claims 4-6, they are allowable because of depended upon an allowable claim.

7. Claims 14 and 15 are allowed.

Regarding to claim 14, prior art of record taken alone or in combination fails to teach or suggest a patterned layer comprising areas of opaque electrically conductive material disposed on the light modulating layer and a dielectric layer disposed on the patterned layer, the dielectric layer comprising contact apertures to the areas of opaque electrically conductive material and to the first electrically conductive layer and a second electrically conductive layer overlying the dielectric layer and extending into the contact apertures in order to enables displays to withstand damage caused by abrasion, impact and various environmental factors.

Art Unit: 2879

The following prior art are cited to further show the state of the art of a method of laminating a display.

U.S. Patent No. 4,060,654 to Quenneville.

U.S. Patent No. 4,310,577 to Davison.

U.S. Patent No. 4,526,818 to Hoshikawa.

U.S. Patent No. 5,868,892 to Klima Jr.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dalei Dong whose telephone number is (571)272-2370. The examiner can normally be reached on 8 A.M. to 5 P.M..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimeshkumar Patel can be reached on (571)272-2457. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



D.D.

September 3, 2004



Joseph Williams
Primary Examiner
Art Unit 2879